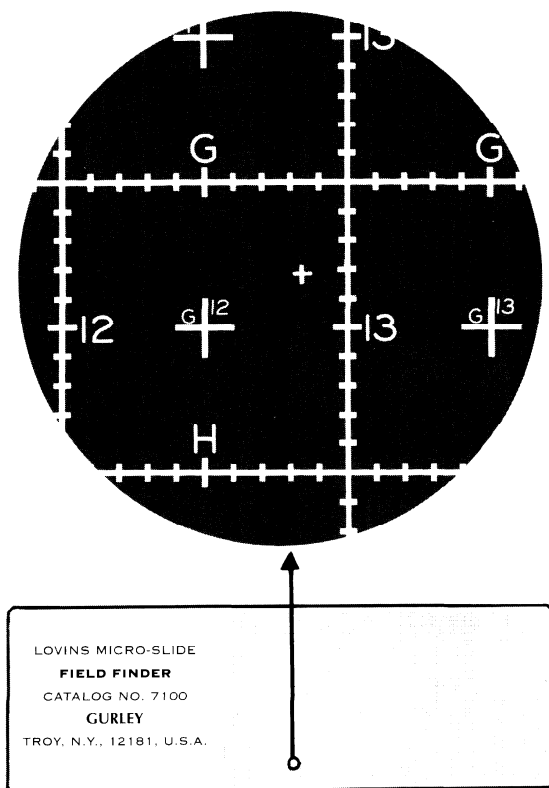


# LOVINS MICRO-SLIDE FIELD FINDER



The Lovins Micro-Slide Field Finder is a simple precision device for the microscopist to relocate fields of interest in a slide-mounted specimen.

## PURPOSE OF FIELD FINDER

Marking a microscope slide to identify a particular field of interest for future reference has always been a difficult problem to many microscopists. Marks of ink or wax pencil are not permanent and may be accidentally lost; circles scribed with a diamond point sometimes either obscure an interesting part of the field or crack the cover glass. The Field Finder has none of these disadvantages since no marks of any kind are placed on the slide. It can be used by anyone on any standard microscope having a mechanical stage, and its use can be mastered in a few minutes.

## DESCRIPTION OF PATTERN

The Field Finder has a precision rectangular-coordinate grid pattern which is accurately positioned on a special microscope slide. The slide has been carefully edge ground to provide straight edges and square corners to insure repeatable results. The overall dimensions are slightly under 1" x 3". The grid covers more than half the area of the slide, so that fields of interest can be located on any part of a slide. The grid is graduated into intervals of 0.1 mm., with each mm. numbered or lettered, thus making it possible to locate a field with great accuracy.

## HOW TO USE FIELD FINDER

The procedure is as follows: (1) After the object to be referenced is centered in the field of the microscope, using the objective giving the most desirable view, the slide is removed from the microscope without disturbing the position of the stage (which may be locked if desired); (2) the Field Finder is substituted for the slide on the stage; (3) using the 8 mm. or 16 mm. objective, the coordinates of the point at the center of the field are noted and recorded on the specimen slide label, as is the focal length of the objective used. To relocate the field of interest at any later time, the procedure is reversed: (1) the Field Finder is placed on the stage and an objective as designated on the slide label is put into operating position; (2) the point having the coordinates recorded on the specimen slide label is brought into the center of the field by the mechanical stage, which is then fixed in position (3) the specimen slide is then substituted for the Field Finder. The field of interest is then in view without further searching. The Field Finders are so accurately made that they are interchangeable. This means that should a Field Finder used in calibrating a number of specimen slides ever be destroyed or lost, a replacement Finder will function in its place. Also, slides can be sent from one laboratory to another with the assurance that the correct fields of interest can be found quickly, providing both laboratories possess a Field Finder.

## INSTRUCTIONS FOR USE OF FIELD FINDER

Place the slide bearing the specimen on the mechanical stage of the microscope with its label toward the fixed side-stop (usually at the right hand of the operator). With the mechanical stage move the slide until the portion of interest is in the center of the field as nearly as can be estimated. If desired, use the 4 mm. objective for this purpose.

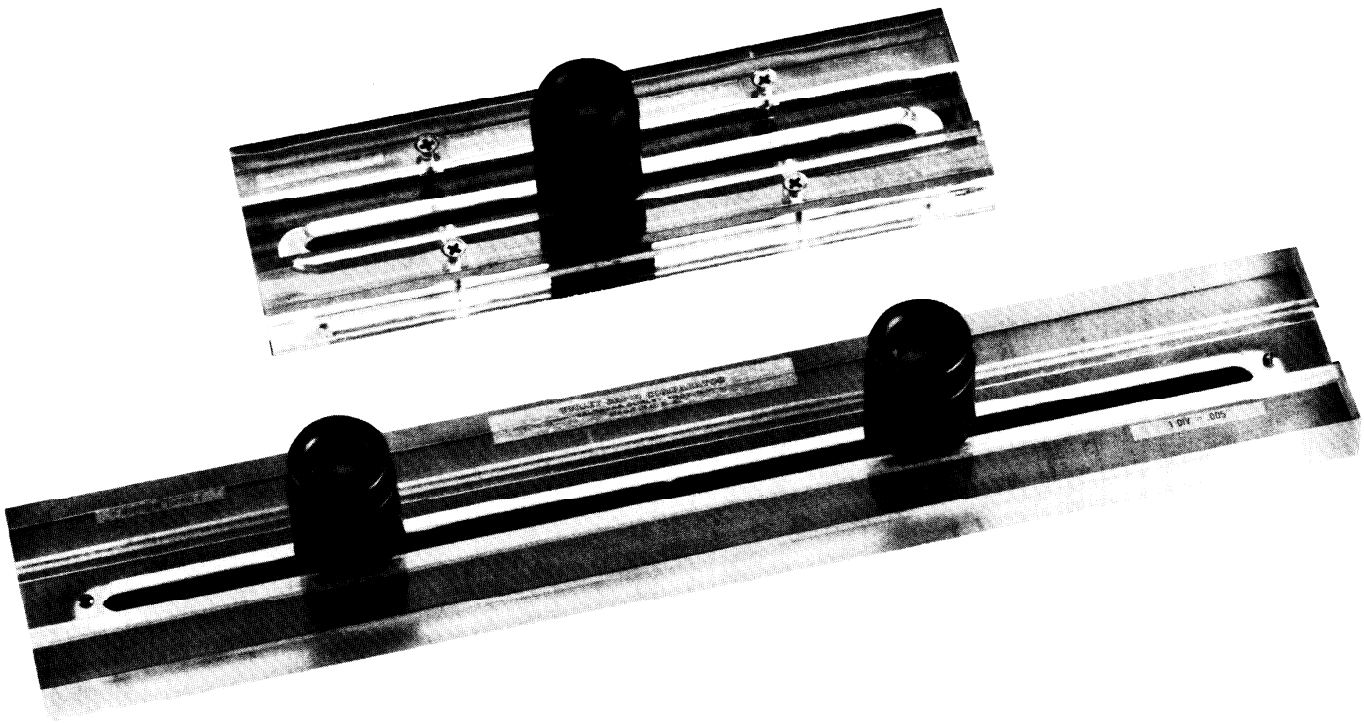
Now carefully remove the specimen slide from the stage and put in its place the Field Finder with the edge to the right of the label against the fixed stop. (If the Field Finder label appears upright to the unaided eye, the grid area will appear upright when viewed under the microscope.) Then place the 16 mm. (10X) objective into operative position and read the coordinates of the point in the center of the field. Record these coordinates on the label of the specimen slide. Remember that the grid area of the Field Finder is accurately placed relative to the bottom edge and the right edge of the glass mount, these edges being in correct position when the label of the Field Finder appears upright to the naked eye. For slides having specimens near right side, place the Field Finder on stage in reverse position.

To relocate a field of interest, reverse the above procedure: Place the 16 mm. objective into position, put the Field Finder onto the mechanical stage of the microscope, move the stage until the coordinate point indicated on the specimen slide label is visible in the center of the field of view. Carefully remove the Field Finder from the stage and place the specimen slide on the stage in its place. The field of interest will now be seen in the center of the field of view.

Careful handling will prevent accidents, but should your Field Finder meet with disaster, another can be used in its place with insignificant error. To clean a Field Finder, wipe it with a soft paper or cloth. **Avoid solvents and other chemical cleaners.**

Note: The pattern is imaged in vacuum deposited chrome for durability.

Cat. No 7100 Lovins Micro-Slide Field Finder with individual case.



## DIRECT READING RAPID COMPARATOR

### An Optical Measuring Instrument

### Combination Inch and Millimeter Scale

The GURLEY Rapid Comparator is an optical measuring device designed for fast and simple measurements to a precision of  $\pm .002$  inches or  $\pm .05$  mm.

Scales are graduated in .005 inch divisions with numerical marking at the 0.1 inch points, and in 0.1 millimeter divisions with numerical markings at the 1 millimeter points.

The heart of the GURLEY Rapid Comparator is a precision glass scale, the master for which was ruled on a Geneva Society (S.I.P.) engine accurate to 5 microns. The scale is cemented in the base of the instrument, with a clearance of approximately .002 inches between the scale and the work being measured. This small gap avoids parallax problems, because the scale and work are very close to the same focal plane. Also, the gap protects the scale from abrasion in use. Scale divisions are vacuum-deposited chrome. With care, the scale will not be damaged in years of service.

The scale is observed through an optically-corrected triplet lens, having a magnification of 7X. This provides a clear, magnified field of view for ease of reading. The lens holder slides in the base and may be adjusted vertically in the slide for the focus best suited to the individual user.

#### APPLICATIONS

The GURLEY Rapid Comparator is being used with excellent results by scientists measuring relative position on Satellite Tracking photographs. It has been found that both accuracy and speed of measurement have been improved substantially over previous methods.

The GURLEY Rapid Comparator has application wherever accurate measurement with resultant time saving is important. Some suggested applications are:

#### Photography

- Aerial Photography
- Astronomical Measurements
- Satellite Tracking Plates
- Multi-color Registration Negatives

#### Graphic Arts

- Engraving
- Lithography
- Cartography

#### Electronics

- Printed Circuitry
- Transistor Masks
- Encoder Patterns

#### Optical Tooling

#### Drafting

- Checking Master Drawings

#### Medical

- X-Ray Measurements

Two models are presently available as follows:

#### ENGLISH — METRIC SYSTEM

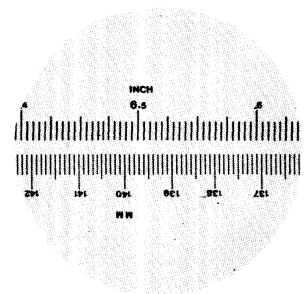
Model 7060 — having a 6 in. and a 150mm scale with one eyepiece

Model 7061 — having a 12 in. and a 300mm scale with two eyepieces

Instruments are furnished with a suitable case.

Longer scales similar to the above can be manufactured on special order.

1 Div. = .005 in.



1 Div. = .1 millimeter

**Gurley**  
Precision Instruments

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